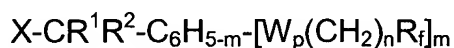


AMENDMENTS

The following is a complete listing of the claims that replaces all previous versions.

1. (Withdrawn) A method for increasing the fluororous nature of an organic compound, comprising:

reacting the organic compound with at least one second compound having the formula:



to create a first fluororous tagged organic compound, wherein R_f is a fluororous group, X is selected from the group consisting of a leaving group, a nucleophilic group and an electrophilic group, R^1 and R^2 are independently, the same or different, one of hydrogen, linear alkyl, branched alkyl, phenyl, $C_6H_{5-q}(W')_q$, $C_6H_{5-m'}[W_{p'}(CH_2)_{n'}R_{f'}]_{m'}$, and $C_6H_{5-m''}[W_{p''}(CH_2)_{n''}R_{f''}]_{m''}$, m, m' and m'' are each integers from 1 to 5, n, n' and n'' are each integers from 0 to 5, p, p' and p'' each have a value of 0 or 1, q is an integer from 0 to 5, W is a grouping of atoms selected from the group consisting of O, S, NR^3 , CR^4R^5 , and SiR^6R^7 , wherein when W is SiR^6R^7 and R^1 and R^2 are each hydrogen, X is not one of Br, N-imidazolyl and $-OH$, and W' is a grouping of atoms selected from the group consisting of OR^8 , SR^9 , $NR^{10}R^{11}$, $CR^{12}R^{13}R^{14}$, and $SiR^{15}R^{16}R^{17}$, wherein R^3 , R^4 , R^5 , R^8 , R^9 , R^{10} , R^{11} , R^{12} , R^{13} , and R^{14} are independently, the same or different, one of hydrogen, linear alkyl, branched alkyl, aryl, benzyl and $-(CH_2)_{n'''}R_f$ and R^6 , R^7 , R^{15} , R^{16} , and R^{17} are independently, the same or different, one of linear alkyl, branched alkyl, aryl, benzyl and $-(CH_2)_{n'''}R_f$, wherein n''' is an integer from 0 to 5,

the organic compound having at least one functional group reactive with group X on the second compound forming at least one chemical bond between the organic compound and the second compound resulting in the first fluororous tagged organic compound wherein the fluororous nature of the first fluororous tagged organic compound is increased relative to the organic compound to enable separation of the first fluororous tagged organic compound from at least one other compound by using a fluororous separation technique.

2. (Withdrawn) The method of claim 1, further comprising reducing the fluorine content of a second fluororous tagged organic compound, wherein the second fluororous tagged organic compound is produced from subsequent chemical transformations on the first fluororous tagged organic compound.

3. (Withdrawn) The method of claim 2, wherein the fluorine content of the second fluororous tagged organic compound is reduced by removing at least one grouping of atoms having a structure selected from the group consisting of: $-\text{CR}^1\text{R}^2-\text{C}_6\text{H}_{5-m}-[\text{W}_p(\text{CH}_2)_n\text{R}_f]_m$, $-\text{C}_6\text{H}_{5-m}-[\text{W}_p(\text{CH}_2)_n\text{R}_f]_m$, $-\text{W}_p(\text{CH}_2)_n\text{R}_f$, $(\text{CH}_2)_n\text{R}_f$, and R_f from the second fluororous tagged organic compound.

4. (Withdrawn) The method of claim 1 wherein X is a leaving group selected from the group consisting of a halide, a methane sulfonate, a p-toluenesulfonate, a trifluoromethanesulfonate and $\text{R}^{18}\text{SO}_3-$, wherein R^{18} is one of linear alkyl, branched alkyl, aryl, benzyl, and $-(\text{CH}_2)_{n'''}\text{R}_f$, wherein n''' is an integer from 0 to 5.

5. (Withdrawn) The method of claim 1 wherein X is a nucleophilic group selected from the group consisting of $-\text{OH}$, $-\text{NH}_2$, $-\text{NHR}^{19}$, $-\text{NR}^{19}\text{R}^{20}$, $-\text{NHC}(=\text{NH})\text{NH}_2$, $-\text{SH}$, $-\text{SR}^{19}$, $-\text{NH}(\text{CH}_2)_{n'''}\text{NH}_2$, and $-\text{NH}(\text{CH}_2)_{n'''}\text{N}((\text{CH}_2)_{n'''}\text{NH}_2)_2$, wherein n''' is an integer from 1 to 5, and R^{19} and R^{20} are independently, the same or different, one of a linear alkyl, a branched alkyl, an aryl and a benzyl group.

6. (Withdrawn) The method of claim 1 wherein X is an electrophilic group comprising $-\text{NCZ}$, wherein Z is one of oxygen and sulfur.

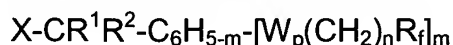
7. (Withdrawn) The method of claim 1 wherein R_f is a fluororous group selected from the group consisting of a perfluorocarbon, a fluorohydrocarbon, a fluorinated ether and a fluorinated amine.

8. (Withdrawn) The method of claim 1 wherein X is a leaving group and R¹ and R² are each hydrogen.
9. (Withdrawn) The method of claim 1 wherein X is a leaving group and R¹ and R² are independently, the same or different, one of C₆H_{5-m}[W_{p'}(CH₂)_{n'}R_f]_{m'} and C₆H_{5-m''}[W_{p''}(CH₂)_{n''}R_f]_{m''}.
10. (Withdrawn) The method of claim 1 wherein X is –SH.
11. (Withdrawn) The method of claim 1 wherein X is one of NR²¹R²² and NR²¹R²²R²³⁺Y[–], wherein R²¹, R²² and R²³ are independently, the same or different, one of a hydrogen, a linear alkyl, a branched alkyl and a benzyl group and Y is a counter anion selected from the group consisting of Cl[–], Br[–], I[–] and CO₃^{2–}.
12. (Withdrawn) The method of claim 1 wherein X is –OH, R¹ is hydrogen and R² is one of H and C₆H_{5-q}(W')_q.
13. (Withdrawn) The method of claim 1 wherein X is –NH₂, R¹ is hydrogen and R² is C₆H_{5-q}(W')_q.
14. (Withdrawn) The method of claim 1 wherein X is –NH(CH₂)_nNH₂.
15. (Withdrawn) The method of claim 1 wherein X is –NH(CH₂)_nN((CH₂)_nNH₂)₂.
16. (Withdrawn) The method of claim 1 wherein X is –NHC(=N)NH₂.
17. (Withdrawn) The method of claim 1 wherein X is –SH and R¹ and R² are each hydrogen.
18. (Withdrawn) The method of claim 1 wherein X is –SR²⁴, wherein R²⁴ is one of a linear alkyl, a branched alkyl, an aryl, and a benzyl group.

19. (Withdrawn) The method of claim 1 wherein X is –NCZ, wherein Z is one of O and S, and R¹ and R² are each hydrogen.

Claims 20-72 (Canceled)

73. (Currently amended) A compound for increasing the fluorous nature of an organic compound, said compound having the formula:



wherein R_f is a fluorous group, X is selected from the group consisting of a leaving group, a nucleophilic group and an electrophilic group, R¹ and R² are independently, the same or different, one of a hydrogen, a linear alkyl, a branched alkyl, a phenyl, an aryl, C₆H_{5-q}(W')_q, C₆H_{5-m'}[W_{p'}(CH₂)_{n'}R_f]_{m'} and C₆H_{5-m''}[W_{p''}(CH₂)_{n''}R_f]_{m''}, m, m' and m'' are each integers from 1 to 5, n, n' and n'' are each integers from 0 to 5, p, p' and p'' each have a value of 0 or 1, q is an integer from 0 to 5, W is a grouping of atoms selected from the group consisting of O, S, NR³, CR⁴R⁵, and SiR⁶R⁷, wherein when W is SiR⁶R⁷ and R¹ and R² are each hydrogen, X is not one of Br, N-imidazolyl and –OH, and W' is a grouping of atoms selected from the group consisting of OR⁸, SR⁹, NR¹⁰R¹¹, CR¹²R¹³R¹⁴, and SiR¹⁵R¹⁶R¹⁷, wherein R³, R⁴, R⁵, R⁶, R⁸, R⁹, R¹⁰, R¹¹, R¹², R¹³, and R¹⁴ are independently, the same or different, one of hydrogen, linear alkyl, branched alkyl, aryl, benzyl and –(CH₂)_{n'''}R_f and R⁶, R⁷, R¹⁵, R¹⁶, and R¹⁷ are independently, the same or different, one of linear alkyl, branched alkyl, aryl, benzyl and –(CH₂)_{n'''}R_f, wherein n''' is an integer from 0 to 5, wherein when X is –OH, R¹ is one of hydrogen, a phenyl, C₆H_{5-q}(W')_q, C₆H_{5-m'}[W_{p'}(CH₂)_{n'}R_f]_{m'} and C₆H_{5-m''}[W_{p''}(CH₂)_{n''}R_f]_{m''} and R² is one of a phenyl, C₆H_{5-q}(W')_q, C₆H_{5-m'}[W_{p'}(CH₂)_{n'}R_f]_{m'} and C₆H_{5-m''}[W_{p''}(CH₂)_{n''}R_f]_{m''} and wherein when X is an electrophilic group, X comprises –NCZ, wherein Z is one of oxygen and sulfur.

74. (Currently amended) The compound of claim 73 wherein X is a leaving group selected from the group consisting of a halide, a methane sulfonate, a p-toluenesulfonate, a trifluoromethanesulfonate and R¹⁸SO₃–, wherein R¹⁸ is one of

linear alkyl, branched alkyl, aryl, benzyl, and $-(CH_2)_{n'''}R_f-(CH_2)_{n'''}R_f$, wherein n''' is an integer from 0 to 5.

75. (Currently amended) The compound of claim 73 wherein X is a nucleophilic group selected from the group consisting of $-OH$, $-OR^{19}$, $-NH_2$, $-NHR^{19}$, $-NR^{19}R^{20}$, $-NHC(=NH)NH_2$, $-SH$, $-SR^{19}$, $-NH(CH_2)_{n'''}NH_2$, and $-NH(CH_2)_{n'''}N((CH_2)_{n'''}NH_2)_2$, wherein n''' is an integer from 1 to 5, and R^{19} and R^{20} are independently, the same or different, one of a linear alkyl, a branched alkyl, an aryl and a benzyl group.

76. (Canceled)

77. (Original) The compound of claim 73 wherein R_f is a fluorous group selected from the group consisting of a perfluorocarbon, a fluorohydrocarbon, a fluorinated ether and a fluorinated amine.

78. (Original) The compound of claim 73 wherein X is a leaving group and R^1 and R^2 are each hydrogen.

79. (Original) The compound of claim 73 wherein X is a leaving group and R^1 and R^2 are independently, the same or different, one of $C_6H_{5-m}[W_p(CH_2)_nR_f]_m$ and $C_6H_{5-m}[W_p(CH_2)_nR_f]_m$.

80. (Original) The compound of claim 73 wherein X is $-SH$.

81. (Original) The compound of claim 73 wherein X is one of $NR^{21}R^{22}$ and $NR^{21}R^{22}R^{23}+Y^-$, wherein R^{21} , R^{22} and R^{23} are independently, the same or different, one of a hydrogen, a linear alkyl, a branched alkyl and a benzyl group and Y is a counter anion selected from the group consisting of Cl^- , Br^- , I^- and CO_3^{2-} .

82. (Canceled)

83. (Original) The compound of claim 73 wherein X is -NH_2 , R^1 is hydrogen and R^2 is $\text{C}_6\text{H}_{5-q}(\text{W}')_q$.

84. (Currently amended) The compound of claim 73 wherein X is $\text{-NH}(\text{CH}_2)_{n'''}\text{NH}_2$, wherein n''' is an integer from 1 to 5.

85. (Currently amended) The compound of claim 73 wherein X is $\text{-NH}(\text{CH}_2)_{n'''}\text{N}((\text{CH}_2)_{n'''}\text{NH}_2)_2$, wherein n''' is an integer from 1 to 5.

86. (Original) The compound of claim 73 wherein X is -NHC(=N)NH_2 .

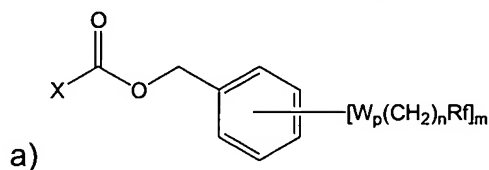
87. (Original) The compound of claim 73 wherein X is -SH and R^1 and R^2 are each hydrogen.

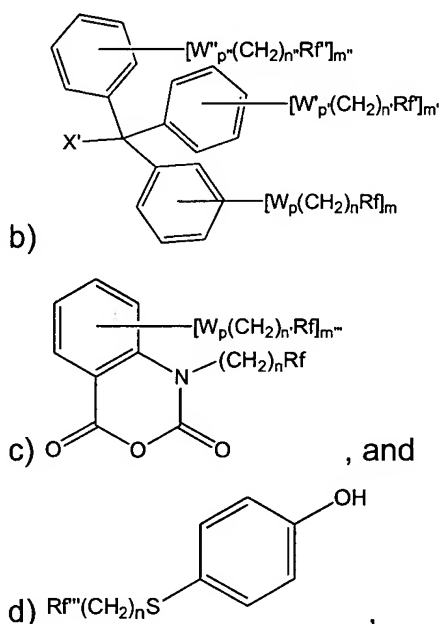
88. (Original) The compound of claim 73 wherein X is SR^{24} , wherein R^{24} is one of a linear alkyl, a branched alkyl, an aryl, and a benzyl group.

89. (Original) The compound of claim 73 wherein X is -NCZ , wherein Z is one of O and S and R^1 and R^2 are each hydrogen.

Claims 90-117 (Canceled)

118. (Withdrawn) A compound for increasing the fluororous nature of an organic compound, the compound having the structure selected from the group consisting of:



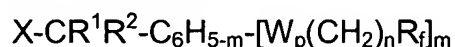


wherein X and X' are each leaving groups, R_f , R_f' , and R_f'' are each fluororous groups, R_f''' is a perfluoroalkyl group of 8 to 16 carbon atoms, m is an integer from 1 to 5, m' , m'' , n, n' , and n'' are each integers from 0 to 5, m''' is an integer from 0 to 4, p, p' , and p'' each have a value of 0 or 1, and W, W' and W'' are each a grouping atoms of selected from the group consisting of O, S, NR^{49} , $CR^{50}R^{51}$, and $SiR^{52}R^{53}$, wherein R^{49} , R^{50} , and R^{51} are independently, the same or different, one of hydrogen, linear alkyl, branched alkyl, aryl, benzyl and $-(CH_2)_{n'''}R_f$, R^{52} and R^{53} are independently, the same or different, one of hydrogen, linear alkyl, branched alkyl, aryl, benzyl and $-(CH_2)_nR_f$ and n''' is an integer from 0 to 5.

119. (Withdrawn) The compound of claim 118 wherein X is a leaving group selected from the group consisting of a halide, $-N_3$, $-CN$, $-OR^{54}$, $-ONH_2$, $-ONHR^{54}$, $-ONR^{54}_2$, $-O_2CR^{54}$, $-O_2COR^{54}$, $-O_2CNR^{54}_2$, $-SR^{54}$, $-OC(S)R^{54}$, $R^{54}CS_2-$, $-SC(O)SR^{54}$, $-SCS_2R^{54}$, $-OC(O)SR^{54}$, $-OC(S)OR^{54}$, $-SC(S)OR^{54}$, $R^{54}SO_2-$, $R^{54}SO_3-$, $R^{54}OSO_2-$, $R^{54}OSO_3-$, $R^{54}PO_3-$, $R^{54}OPO_3-$, an N-imidazolyl group, an N-triazolyl group, an N-benzotriazolyl group, a benzotriazolyl group, an imidazolyl group, an N-imidazolinone group, an N-imidazolone group, an N-imidazolinethione group, an N-succinimidyl group, an N-phthalimidyl group, an N-succinimidyl group, an N-phthalimidyl group, $-ON=C(CN)R^{54}$, and a 2-pyridyloxy group, wherein R^{54} is one of linear alkyl, branched alkyl, aryl, benzyl, and $-(CH_2)_nR_f$, wherein n is an integer from 0 to 5.

120. (Withdrawn) The compound of claim 118 wherein X' is a leaving group selected from the group consisting of a halide, a methane sulfonate, a p-toluenesulfonate, a trifluoromethanesulfonate and $R^{18}SO_3-$, wherein R^{18} is one of linear alkyl, branched alkyl, aryl, benzyl, and $-(CH_2)_{n'''}R_f$, wherein n''' is an integer from 0 to 5.

121. (New) A compound for increasing the fluorous nature of an organic compound, said compound having the formula:



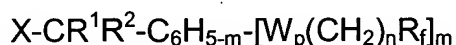
wherein R_f is a fluorous group, X is one of a nucleophilic group and a leaving group, R^1 is one of a hydrogen, a linear alkyl, a branched alkyl, a phenyl, an aryl, $C_6H_{5-q}(W')_q$, and $C_6H_{5-m}[W_p(CH_2)_nR_f]_{m'}$, R^2 is one of a linear alkyl, a branched alkyl, a phenyl, an aryl, $C_6H_{5-q}(W')_q$, $C_6H_{5-m}[W_p(CH_2)_nR_f]_{m'}$, and $C_6H_{5-m''}[W_{p''}(CH_2)_{n''}R_f]_{m''}$, m, m' and m'' are each integers from 1 to 5, n, n' and n'' are each integers from 0 to 5, p, p' and p'' each have a value of 0 or 1, q is an integer from 0 to 5, W is a grouping of atoms selected from the group consisting of O, S, NR^3 , CR^4R^5 , and SiR^6R^7 , and W' is a grouping of atoms selected from the group consisting of OR^8 , SR^9 , $NR^{10}R^{11}$, $CR^{12}R^{13}R^{14}$, and $SiR^{15}R^{16}R^{17}$, wherein R^3 , R^4 , R^5 , R^6 , R^8 , R^9 , R^{10} , R^{11} , R^{12} , R^{13} , and R^{14} are independently, the same or different, one of hydrogen, linear alkyl, branched alkyl, aryl, benzyl and $-(CH_2)_nR_f$ and R^6 , R^7 , R^{15} , R^{16} , and R^{17} are independently, the same or different, one of linear alkyl, branched alkyl, aryl, benzyl and $-(CH_2)_{n'''}R_f$, wherein n''' is an integer from 0 to 5.

122. (New) The compound of claim 121, wherein X is a leaving group selected from the group consisting of a halide, methane sulfonate, p-toluenesulfonate, trifluoromethanesulfonate and $R^{18}SO_3-$, wherein R^{18} is one of linear alkyl, branched alkyl, aryl, benzyl, and $-(CH_2)_{n'''}R_f$, wherein n''' is an integer from 0 to 5.

123. (New) The compound of claim 121, wherein X is a nucleophilic group selected from the group consisting of $-OH$, $-NH_2$, $-NHR^{19}$, $-NR^{19}R^{20}$, wherein R^{19} and R^{20} are independently, the same or different, one of a linear alkyl, a branched alkyl, an aryl and a benzyl group.

124. (New) The compound of claim 121, wherein X is one of -OH, -Cl, -Br, and -I.

125. (New) A compound for increasing the fluorous nature of an organic compound, said compound having the formula:



wherein R_f is a fluorous group, X is one of a nucleophilic group and a leaving group, R^1 is one of a phenyl, an aryl, $C_6H_{5-q}(W')_q$, and $C_6H_{5-m}[W_p(CH_2)_nR_f]_m$, R^2 is one of a phenyl, an aryl, $C_6H_{5-q}(W')_q$, $C_6H_{5-m}[W_p(CH_2)_nR_f]_m$, and $C_6H_{5-m''}[W_{p''}(CH_2)_{n''}R_f]_{m''}$, m, m' and m'' are each integers from 1 to 5, n, n' and n'' are each integers from 0 to 5, p, p' and p'' each have a value of 0 or 1, q is an integer from 0 to 5, W is a grouping of atoms selected from the group consisting of O, S, NR^3 , CR^4R^5 , and SiR^6R^7 , and W' is a grouping of atoms selected from the group consisting of OR^8 , SR^9 , $NR^{10}R^{11}$, $CR^{12}R^{13}R^{14}$, and $SiR^{15}R^{16}R^{17}$, wherein R^3 , R^4 , R^5 , R^6 , R^8 , R^9 , R^{10} , R^{11} , R^{12} , R^{13} , and R^{14} are independently, the same or different, one of hydrogen, linear alkyl, branched alkyl, aryl, benzyl and $-(CH_2)_nR_f$ and R^6 , R^7 , R^{15} , R^{16} , and R^{17} are independently, the same or different, one of linear alkyl, branched alkyl, aryl, benzyl and $-(CH_2)_{n'''}R_f$, wherein n''' is an integer from 0 to 5.

126. (New) The compound of claim 125 wherein X is a leaving group selected from the group consisting of a halide, methane sulfonate, p-toluenesulfonate, trifluoromethanesulfonate and $R^{18}SO_3-$, wherein R^{18} is one of linear alkyl, branched alkyl, aryl, benzyl, and $-(CH_2)_{n'''}R_f$, wherein n''' is an integer from 0 to 5.

127. (New) The compound of claim 125, wherein X is a nucleophilic group selected from the group consisting of -OH, -NH₂, -NHR¹⁹, -NR¹⁹R²⁰, wherein R^{19} and R^{20} are independently, the same or different, one of a linear alkyl, a branched alkyl, an aryl and a benzyl group.

128. (New) The compound of claim 125, wherein X is one of -OH, -Cl, -Br, and -I.